V. S. L. PATE

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NOVEMBER, 1940

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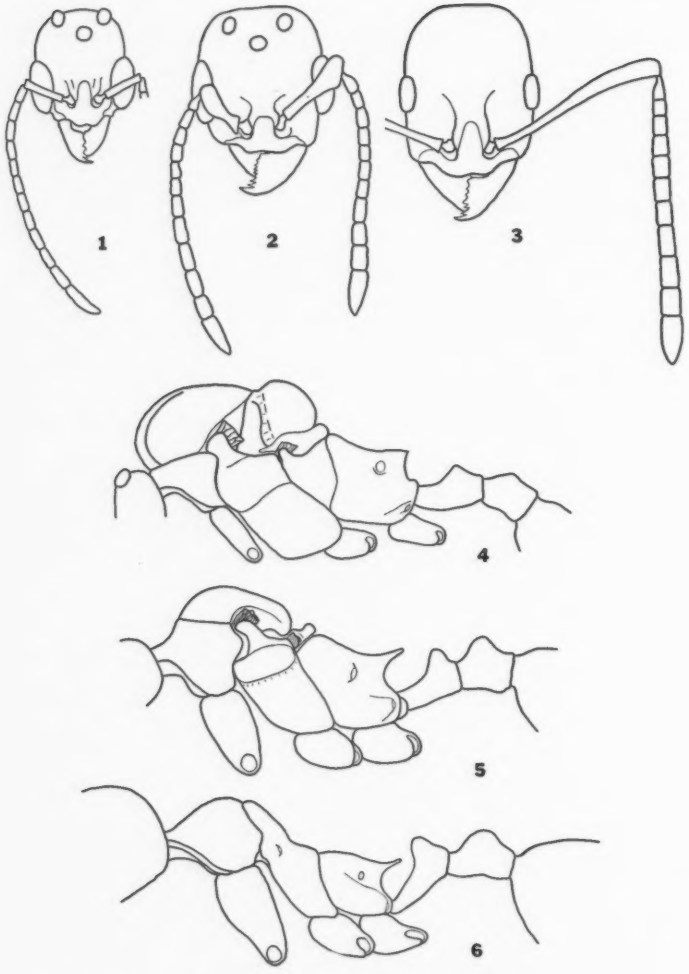

APHAENOGASTER FULVA AQUIA.
1, 4, MALE; 2, 5, GYNANDROMORPH; 3, 6, WORKER.—WESSON.

ENTOMOLOGICAL NEWS

VOL. LI NOVEMBER, 1940 No. 9

A Gynandromorph of Aphaenogaster fulva subsp. aquia Buckley (Hymenoptera: Formicidae).

By LAURENCE G. WESSON, Jr., Jackson, Ohio.

(Plate VI).

The following is another in a long list of ant sex mosaics, descriptions of which have appeared from time to time in the literature[1].

The specimen in question was taken early in July, 1937, a few inches from the entrance to a nest of *Aphaenogaster aquia,* in Jackson, Ohio.

Description (Plate VI, figs. 2, 5): length, 4.0 mm.

Resembling a typical worker of *Aphaenogaster aquia,* from which it differs in the following particulars:

1. Head, excluding mandibles, about as broad as long, broadly rounded behind.

2. Clypeus smaller than in the worker, less convex, and not extending as far back between the frontal carinae which are lower and closer together.

3. Eyes very large, oval and convex, closer to the mandibular border than in the worker; ocelli well developed.

4. Mandibles shaped as in the worker, but somewhat feebler; more heavily developed than in the male.

5. Left antenna 12-jointed as in the worker, right antenna 13-jointed as in the male, but the joints of both proportioned as in the male; funiculi short, reaching scarcely half the distance to the posterior border of the head, thickened, strongly incrassated at their tips.

6. Thorax stouter and shorter than in the worker, showing traces of having borne wings; the sutures of pro- and mesonotum, scutellum and pleurae distinct.

[1] Wheeler, W. M. Concerning some ant gynandromorphs. Psyche 38, pp. 80-85, 1931. Mosaics and other anomalies among ants. Harvard Univ. Press 1937.

Epinotum, petiole, postpetiole, gaster, legs, pilosity, sculpture and color as in the worker.

The specimen resembles a worker body bearing an extraordinarily male-like head. But contrary to what would be expected in a blastomeric mosaic, none of the characters are pure male; the eyes are more flattened than in the normal male; the frontal carinae longer; the antennae heavier, especially the scapes, and one antenna comprising 12 instead of 13 joints; the mandibles and head more robust. All of the differences are suggestive of the female sex. The differences in the thorax are rather more like the queen in appearance, and may be correlated with the development of wings. In general, the composition of the specimen would seem to be most easily explained by the theory of intersexes as recently extended by Whiting[2] to certain ant mosaics.

PLATE VI. *Aphaenogaster fulva aquia.* Fig. 1. Head of male, Fig. 2. Head of gynandromorph, Fig. 3. Head of worker, Fig. 4. Thorax of male from the side, Fig. 5. Thorax of gynandromorph from the side, Fig 6. Thorax of worker from the side.

Diptera of Michigan.

"A List of the Diptera or Two-winged Flies of Michigan", critically compiled as to nomenclature, authority and distribution, is nearing completion by the undersigned. The list already totals over 2100 species, with several large families still in the hands of specialists. In order that the published list may be as complete and as informative as possible, the cooperation of specialists, student, collectors, and institutions is earnestly invited and deired. Any pertinent information, records or material will be welcomed and duly acknowledged.—GEORGE C. STEYSKAL, CURTIS W. SABROSKY, Dept. of Entomology, Michigan State College, East Lansing, Michigan.

[2] Whiting, P. W. Anomalies and caste determination in ants. J. of Hered. 29: pp. 189-193. 1938.

New Mycetophilidae from North Carolina (Diptera).

By ELIZABETH G. FISHER, Academy of Natural Sciences of Philadelphia.

Dr. B. B. Fulton[1] of the North Carolina State College has reared three new species of Mycetophilidae, the first from web-spinning larvae, the second from luminous larvae, the third from pupae found in rotten wood. Since he hopes to publish a detailed account of the life histories it seems well to publish descriptions of the adults at this time.

I wish to thank Dr. O. A. Johannson for the loan of his Pennsylvania *"Ceroplatus bellulus"*, Dr. F. W. Edwards for information about Williston's type and Mr. B. B. Fulton for the privilege of retaining the types of the new species.

Ceroplatus (Cerotelion) johannseni new species.

This species is conspecific with Johannsen's Pennsylvania specimen of *Ceroplatus bellulus*[2] nec Williston[3]. Williston's type from Mexico belongs to the subgenus *Euceroplatus*[4].

These specimens belong to the subgenus *Cerotelion;* the tibial setulae are irregularly arranged, the face is broad, the spurs are black, the eyes are emarginate and the ocelli are removed from the eye margins by about the width of an ocellus.

The specimens of this species are quite variable in color and in size, as seems to be true of other species of this genus. The North Carolina males are predominately brown and yellow, the females black (Fulton reared them together). A Connecticut male and female (in copula) are both predominately brown and yellow. Another Connecticut male and an Iowa male differ in having black abdomens approaching the North Carolina females in color. Structually they are alike as far as I am able to find. The male terminalia are all alike and resemble somewhat *Ceroplatus (Cerotelion) lineatus* Fabricius. The wings have no brown marks. The North Carolina females of this

[1] J. Elisha Mitchell Society 55: 289-293, pl. 27. 1939.

[2] Maine Agr. Exp. Sta. Bull. 172: 240. 1909.

[3] Biol. Centr. Amer. Dipt. 1: 219. 1900. Maine Agr. Exp. Sta. Bull. 172: 239. 1909.

[4] Proc. Linn. Soc. N. S. Wales 54 (3): 174. 1929.

species apparently resemble *Ceroplatus (Ceroplatus) carbonarius* Bosc in coloration, but lack the prominent wing spots, lack the white at the tips of the antennae, possess stripes on the mesonotal disk, and R_4 ends in C not R_1.

♂ : Total length 7 mm.; wing 4 mm. Head black above, face and mouthparts yellow. Thorax yellow; mesonotum with a median triangular brown stripe which is divided by a median yellow line anteriorly, the apex of the triangle is directed posteriorly where it becomes obsolete before the scutellum. Lateral mesonotal stripes darker, not reaching the anterior margin and leaving the humeral angles yellow, widened posteriorly above the wing bases so that a yellow V-shaped line is left between the lateral and median stripes. Scutellum yellow. Pleura yellow, pleurotergites, postnotum and hypopleurites brownish. Halteres with the knob black and the stalk yellow. Legs yellow, the bases of the middle and hind femora slightly brownish. Abdomen brown with the bases of the segments broadly yellow. Posterior portion of the pronotum and the propleura with setae. Anterior spiracular membrane without setae. Dorso-anterior angle of the anepisternite with fine setae. Postnotum bare.

Wings hyaline. C extends one-third the distance between the tips of Rs and M_{1+2}; Sc ends in C at the level of the end of the basal cell; Sc_2 absent; R_4 ends in C; R_4 short and only slightly oblique; R_4 origin at the level of the tip of R_1; stalk of M one and a half to twice as long as the coalesced portion of M with Rs; anal vein reaches the wing margin.

A male specimen from Iowa differs in being smaller and darker in color. Total length 5mm. Mesonotum brownish yellow with black stripes. Pleura dark brown. Scutellum and postnotum black; setae black. Stalk of halteres whitish, knob black. Legs whitish yellow; tips of the middle and hind coxae blackish and the bases of the middle and hind femora blackish. Abdomen black; setae black.

A Connecticut male also has a black abdomen, another has the abdomen brown with the bases of the third, fourth and fifth segments yellow.

♀ : Total length 5.75 to 9 mm. Head black above, face and palpi yellow. Antennae black, Thorax mainly black; mesonotum yellow with lateral black stripes abbreviated anteriorly and a median black triangle with its apex directed posteriorly but not reaching the scutellum. Scutellum black. Pleura and postnotum black. Abdomen black.

The Connecticut female differs in having a brown thorax and abdomen.

Holotype:— ♂ ; Raleigh, Wake County, NORTH CAROLINA. Reared from larva by B. B. Fulton; adult emerged April 25. [Acad. Nat. Sci. Phila. No. 6488].

Allotype:— ♀ ; ten miles north of Southport, Brunswick County, NORTH CAROLINA. Reared from larva by B. B. Fulton; adult emerged April 11.

Paratypes:—1 ♀ ; ten miles north of Southport, Brunswick County, NORTH CAROLINA; reared April 24 (B. B. Fulton). 2 ♀ ; Raleigh, Wake Co., North Carolina; reared April 25 (B. B. Fulton). 1 ♂ ; Black Mts., Buncombe and Yancy Counties, North Carolina (W. G. Deitz). 1 ♂ ; Pottstown Montgomery County, PENNSYLVANIA (C. W. Johnson) [Johannsen Collection]. 2 ♂ ; 1 ♀ ; Redding, Fairfield County, CONNECTICUT, June 10-26 (A. L. Melander). 1 ♂ ; Muscatine County, IOWA, August 28, (B. Berger).

Platyura (Rutylapa) fultoni new species.

This species runs to *Platyura genualis* Joh. in Johannsen's key[5] but differs in terminalial structure. I place this species in the subgenus *Rutylapa*, although it lacks the posterior spiracular hairs, because it agrees in the other characters of the subgenus.

♂ :—Total length 5 mm. Head brown, deep black about the three ocelli, face yellow; palpi dark brown, the remainder of the mouthparts yellow. Thorax light yellow; mesonotum brownish yellow with two narrow stripes arising at the ends of the rudimentary transverse suture, uniting behind and obsolete before reaching the scutellum; lateral stripes broad, obsolete anteriorly leaving the humeral angles yellow. Mesonotum uniformly setose. Scutellum with its margin broadly black. Pleura with two prominant brown spots, one on the anepisternite, the other on the pleurotergite. Anepisternite with minute setae above. No spiracular setae. Postnotum yellow; its dorsal surface brown and setose.

Wings with a central spot and the tips dusky. C extends half way to M_{1+2}, Sc ends in C over the origin of Rs, base of Rs faint, R_1 arises under the tip of Rs, Rs and M fused for approximately one-half the length of the stalk of M.

[5] Maine Agr. Exp. Sta. Bull. 172: 250. 1909.

Tibial spurs 1-2-2. Abdominal tergite one brown, second, third, and fourth with the basal half to two-thirds yellow and the distal portion brown, the remainder of the abdomen black. The male terminalia with simple styles unevenly bifurcate at their tips. Legs yellow; trochanters with black spots below on the meso- and metathoracic legs and brown on the prothoracic legs. Meso- and metafemora dusky above.

♀ :—Differs from the male in having R_4 slightly shorter, in having the central wing spot reaching into the fork of M. Abdomen a dusky yellow with narrower greyish posterior margins.

Holotype:— ♂ ; Glenville, Jackson County, NORTH CAROLINA; June 10. (B. B. Fulton). [Acad. Nat. Sci. Phila. No. 6489].

Allotype:— ♀ ; Glenville, Jackson County, NORTH CAROLINA; June 13. (B. B. Fulton).

Paratypes:—6 ♂ ; Glenville, Jackson County, North Carolina; June 10-14 (B. B. Fulton). 3 ♀ ; same locality, June 16-19 (B. B. Fulton). 2 ♂ ; Lewis Falls, Shenandoah National Park, VIRGINIA, July 4 (A. L. Melander).

Phthinia carolina new species.

This species is close to *Phthinia catawbiensis* Shaw and *Phthinia tanypus* Loew. It differs in having vein C hardly extended beyond the tip of Rs, in having the Cu fork almost under the M fork.

♂ : Total length 7 mm.; wing 4.5 mm.; fore tibia 1.70 mm., fore basitarsus 3.80 mm. Head black; face and mouthparts brown. Antennae deep brown except the scape and the base of the flagellum which are yellow. Thorax brown; mesonotum with black vittae.

Wings hyaline, the apex with macrotrichia on the membrane. C hardly extended beyond the tip of Rs; Sc ends in C before the level of the origin of Rs; Sc_2 just before the middle of Sc; stalk of M subequal to r-m; Cu fork practically under the M fork; Cu_2 sinuate. Halteres yellow, knob brownish black.

Legs yellow. Tibial spurs 1-2-2. Abdomen black, bases of segments especially ventrally brown. Each style of male terminalia with two unequal spines as in *Phthinia catawbiensis* Shaw but with the mesally directed slightly sclerotized lobe more compact, broader and almost triangular.

♀ :—Similar to the male. Fore tibia 1.80 mm., fore basitarsus 3.40 mm.

Holotype:— ♂ ; Raleigh, Wake County, NORTH CAROLINA; April 4. (B. B. Fulton). [Acad. Nat. Sci. Phila. No. 6490].

Allotype:— ♀ ; Raleigh, Wake County, NORTH CAROLINA; April 6. (B. B. Fulton).

Some Neotropical Syrphid Flies (Diptera).

By FRANK M. HULL, University of Mississippi.

This paper presents descriptions of some species of neotropical Syrphids that have been received from several sources. The author is indebted to Mr. J. Lane of Sao Paulo, Brazil, for the privilege of studying many interesting South American species, two of which are described here. Unless otherwise stated, types are in the author's collection.

Microdon hondurania n. sp.

♂. Length 5.5 mm.; antennae 1.5 mm. Head: eyes not approximated above, without pile and the front barely narrower than the parallel-sided face, both of which are broad. Front and upper part of occiput, except the posterior margin along the dorsum, shining dark brown. Face and cheeks pale shining yellow and a pair of similarly colored rectangular spots placed transversely across the middle of the front, barely separated in the middle. Pile of the face and lower part of occiput and the extreme posterior margin of the upper part of the occiput pale yellow. Antennae black, the third joint a little more than twice as long as the first joint.

Thorax: widely dark shining brown over the mesonotum, except narrowly along the sides and for a short distance upon the anterior margin inside of the humeri. The broad, dark central area with faint narrow violaceous vittae. Pleurae and the lateral margin of the mesonotum, the humeri and the scutellum light yellowish brown, the disc of the scutellum slightly darker, its extremely blunt, closely approximated nodulate spines blackish.

Abdomen: short and broad, the whole of the first segment and whole of the second, except for an obscure lateral brown spot, light brownish yellow. The third segment extensively dark brown, its posterior margin narrowly light yellow, extending broadly forward in the middle but not bisecting the anterior

brown band. The fused fourth and fifth segments light brownish yellow with the broad, somewhat diagonal, brown stripe located a little before the middle of the segment, the outer ends of the spot somewhat curved. There are traces of a median brown vitta reaching almost to the posterior margin; hypopygium and venter pale yellow. Pile of the abdomen fine and delicate, dark brown in color, rather thick.

Legs: more or less uniformly brown, the apical third of all of the tibiae barely darker in some lights.

Wings: strongly infuscated with brown, the cross veins still more heavily margined. Subapical cross vein nearly straight, slightly recurrent, the last portion quite rectangular.

One *holotype* male. On small, low growing herbage along the Salada River, fifteen miles inland from Ceiba, S. HONDURAS. (F. M. Hull collector).

Mesogramma croesus n. sp.

♂. Length 6.5 mm. Head: front, face and antennae pale yellow, cheeks brownish, the narrow occiput steel blue, the upper part of the front of the triangle greyish pubescent, the upper two-thirds of the occiput golden brown pubescent, the lower portion greyish.

Thorax: with continuous pale yellow margin confluent with the pale yellow humeri, mesonotum with a prominent metallic grey median vitta margined by a violaceous or coppery brown stripe outside of which is a golden stripe. Between the golden stripe and the yellow margin is a wide violet vitta. Pleurae shining metallic with pale yellow stripes on the posterior half of the mesopleurae and conspicuous spot on the upper part of the sternopleurae. Scutellum metallic golden throughout.

Abdomen: somewhat slender, black marked with yellow on the basal corners; second segment brownish yellow, with a wide, black posterior margin and in the middle of the basal two-thirds a narrowly interrupted brown band that reaches the sides of the segment. Third segment black and shining, the posterior margin yellowish brown, not quite reaching the corners, produced forward as a slender medial stripe to reach the base of the segment. A similarly colored oval spot in the anterior corners but entirely surrounded by black almost confluent basally with a larger brownish yellow spot which itself is drawn out medially and has its two expanded ends turned inward in the direction of the median stripe. Its basal end touches the base of the segment. Fourth segment with almost

identical pattern. The submedial, attenuated spot is basally but narrowly confluent with the median stripe. Fifth segment with a broad median oval spot, widest basally and on either side an equally large subtriangular spot with rounded corners, widest posteriorly where it reaches the posterior corner of the segment. Hypopygium shining black on the right half.

Legs: pale yellow, a broad brownish black band on the outer half of the hind femur and a similar one on the middle half of the hind tibiae.

Wings: elongate, slightly brownish, the stigma dark brown.

Holotype male. Sao Paulo, BRAZIL (J. Lane col.) April 6-8, 1939.

Mesogramma polygraphica n. sp.

♀. Length 6 mm. Head: front black, the sides narrowly pale yellow to the middle of the front, the vertex obscurely violaceous, face pale yellow with a light brown band on the upper half of the middle of the face. Antennae pale brown, cheeks black on posterior two-thirds.

Thorax: black with mesonotal margins and the humeri pale yellow. Pleurae black, a yellow stripe on the posterior half of the mesopleurae and the upper part of the sternopleurae. Scutellum brown on the disc with yellow margins.

Abdomen: black with yellow markings. First segment extensively black posteriorly, the sides and anterior corners yellow. Second segment black with a narrow transverse yellow band from margin to margin, interrupted in the middle and each half of this yellow band semi-interrupted. Third segment with a median yellow stripe, slightly swollen on the base and posteriorly not quite reaching the margin. Three spots lie on either side of this vitta, the group extending two thirds or more the length of the segment. There is a yellow spot in the anterior corners of the segment extended posteriorly and medially to barely connect with a broad and oval postero-medially pointed spot which is narrowly separated from the median vitta and which may, or may not connect with a slightly smaller, vertical and posteriorly pointed yellow spot lying on the basal margin. Fourth segment with practically similar coloration except that the connection of the three spots on each lateral half is slightly broader and the median stripe slightly expands posteriorly and reaches the posterior margin. Fifth segment brownish yellow, the posterior margin black, extending over the posterior two-thirds of the lateral margin, produced forward medially to the

base of the segment before reaching which it produces a black L-like arm on either side, which also reaches the bases of the segment.

Legs: yellow, with an obscure, narrow subapical brown band on the hind femora and a similar one before the middle of the hind tibiae. Hind tarsi brown.

Wing: stigma of wing rather dark brown.

One female. Sao Paulo, Batea, BRAZIL, September, 1937 (J. Lane collector).

Salpingogaster stigmatipennis n. sp.

♀. Length 15 mm. Head: face and cheeks pale yellow with a pale obscure reddish spot about the tubercle. Front and vertex brownish black, the former becoming light brown above the antennae and sharply pale yellow narrowly along the eye margin. Antennae orange brown, black pilose.

Thorax: mesonotum dull light reddish brown with a broad dark brown or blackish vitta in the center, but only upon the anterior two-thirds. Humeri and metanotum light reddish; scutellum similarly colored, except its narrow base, a narrow fascia and its extreme posterior margin, which are yellow. Notopleurae, a vertical somewhat oblique stripe and a spot on the anterior part of the metapleurae pale yellow; pleurae elsewhere light red.

Abdomen: almost wholly pale brownish orange, the posterior margin of the third and fourth segment somewhat diffusely darker. Anterior corners of the second segment and basal corners of first pale yellow. First segment posteriorly with a wide dark brown fascia.

Legs: light yellow, the tarsi and the hind tibiae, except a middle annulus, light brown. Pile of legs chiefly brown, darker brown upon the tarsi and hind tibiae and femora.

Wings: pale brown, nearly hyaline, the anterior margin dark brown, confined to stigmal and marginal and the end of submarginal cell. The costal cell is somewhat paler and a brown triangular spot covers the origin of the second and third veins.

Two *cotypes*, Lindig, VENEZUELA: in the Vienna Museum and in the author's collection.

A New Diplotaxis and A New Synonym (Coleoptera: Scarabaeidae).

By MONT A. CAZIER, University of California, Berkeley.

Diplotaxis dahli new species.

Medium sized, robust; head and pronotum black, elytra piceous; elytra sparsely clothed with long brown hair; head without occipital smooth space; labrum shallowly emarginate; clypeal angles not dentiform; tooth of claws post median in position, much shorter than superior portion of claw; strial punctures without hair; clypeal suture distinct.

Head with punctures on vertex separated by about their own widths, those on front large, coalescent and contiguous; front with shallow convex ridge above clypeal suture, anterior surface of ridge more sparsely punctate than front; clypeus with anterior angles evenly, obtusely rounded, anterior margin shallowly emarginate medially, side margins nearly straight to end of canthi, surface with large punctures contiguous, clypeal suture distinct except for small median portion; antennae ten-segmented; mentum abruptly cleft at anterior third, row of erect setae on ridge along summit of declivity.

Pronotum with side margins prominent; widest just behind middle; surface with large punctures separated by about one to one and one-half times their own widths, spaces between punctures finely, sparsely punctate.

Elytra with costae evident but not prominent; first intercostal space on disk with punctures separated by about twice their own widths, setigerous, spaces between punctures finely punctate.

Beneath sparsely clothed with long brown pile; surface densely punctate laterally, sparsely punctate medially; basal segment of hind tarsus more than twice as long as broad. Length 12 mm., width 6 mm.

Holotype in the writer's collection, taken seven miles west of Coalinga, Fresno County, CALIFORNIA, March 20, 1940, by R. G. Dahl, after whom the writer takes pleasure in naming the species. Two *paratopotypical* specimens deposited in Mr. Dahl's collection. All specimens were collected at night on *Juniperus californicus* Carr.

Both paratype specimens are somewhat smaller than the holotype and one is dark reddish-brown, due probably to its newly emerged condition when collected.

Diplotaxis dahli is apparently most closely allied to *D. muricata* Schaeffer and *D. hispida* Fall of the previously described pilose species. It can, however, be distinguished from *D. muricata* by its larger size, more elongate clypeus, by having the anterior clypeal margin shallowly emarginate, by its smaller pronotal punctuation, more angulate pronotal margins, by its glabrous pronotal surface, by its longer elytral pile and shining appearance. From *D. hispida* it can be distinguished by its elongate clypeus which has the anterior margin shallowly emarginate, by the convexity on the front of the head, by the shining surface throughout and by having the elytral pile about three-fourths as long as the width of the scutellum. In general appearance *D. dahli* closely resembles *D. falli* Saylor and both species are collected on the same host at the same locality during the same season. It can, however, be distinguished from *D. falli* by the presence of the elytral pile, the straight side clypeal margins, the densely punctate convexity on the front of the head, the more densely placed pronotal punctures, by its shining appearance and by its abruptly declivous mentum with setae along posterior margin of declivity.

DIPLOTAXIS CRIBRULOSA Le Conte.

Diplotaxis cribrulosa Le Conte, 1856, Jour. Acad. N. S. Phila., (2) 3:270.

Diplotaxis popino Casey, 1885, Contrib. to Desc. and System. Col. of N. Amer., pt. 2, p. 179. (New Synonym).

An examination of the types of these two forms has shown that they are conspecific. The differences given in Fall's revision do not set aside two distinct species as these characters (punctuation, clypeal angles, labrum, etc.) are extremely variable in this common species. All gradations between types are found in series from a single location.

There is, however a variation of this species in Arizona that may represent a subspecies. This is a large dark form. The writer has examined a series of forty-five specimens collected at Phoenix, Arizona (R. Flock) but was unable to find any structural difference that would separate it from the smaller specimens of *D. cribrulosa*. Additional data will probably clarify its position.

Notes and Descriptions of West American Cerambycidae - IV[1] (Coleoptera).

By E. Gorton Linsley, University of California, Berkeley.

Orthosoma and *Derobrachus* are distinct genera and have been incorrectly regarded as synonymous by recent workers. The wing venation of the latter is similar to that of *Prionus* and *Tragosoma* in the possession of two unconnected post-cubital veins. Some of the more important differences between *Orthosoma* and *Derobrachus* may be summarized as follows:

Antennae with third segment about as long as first two segments together, distinctly shorter than fourth and fifth segments together; maxillary palpi short; posterior wings with but a single post-cubital vein; abdomen of male with fifth sternite narrowly emarginate, sixth sternite concealed. (Genotype: *Prionus cylindricus Fab.*) ..... *Orthosoma*

Antennae with third segment distinctly longer than first two segments together, about as long as fourth and fifth segments together; maxillary palpi elongate; posterior wings with two unconnected post-cubital veins; abdomen of male with fifth sternite broadly emarginate, sixth sternite exposed (Genotype: *Derobrachus brevicollis* Serv.) .... *Derobrachus*

Phymatodes vilitatis new name.

Callidium vile LeConte (nec Newman), 1873, Smithson. Misc. Coll., XI, 264: 172.

When LeConte described this species he was unable to see the stridulatory plate of the mesonotum and he assumed that it was coarsely punctate. Actually, however, it is finely punctulate and tessellate as in typical *Phymatodes*, and the size and form is more nearly that of the latter genus than of *Callidium*. In the writer's opinion, not only this species, but *Callidium hardyi* Van Dyke, and *C. hirtellum* LeConte should be referred to *Phymatodes*. However, whatever may be the ultimate disposition of these species, LeConte's name is unfortunately pre-occupied (by *Callidium vile* Newman, 1842, Entomologist, 1: 223) and the above alternative is proposed to replace it.

[1] The previous papers in this series appeared in Ent. News, 1934, 65: 161-165, 181-185; 1935, 66: 161-166; and 1937, 68: 63-69.

CALLIDIELLUM new genus.

Form moderately robust, somewhat flattened. Head small; frons short; vertex scarcely impressed between antennal bases; antennae slender, longer than the body in male, eleven segmented in both sexes, second segment nearly twice as long as broad, outer segments not flattened or expanded; palpi unequal in length, last segment triangular, apex truncate; eyes finely facetted, deeply emarginate but not embracing antennal insertion. Pronotum evenly rounded at sides; surface weakly or sparsely punctate, discal callosities feeble; anterior coxae transverse, broadly angulate externally, open posteriorly, intercoxal process narrow in the male, broad in the female, apex subtruncate; mesonotum with a large, undivided, finely tessellate, impunctate stridulatory plate; mesosternum with intercoxal process broad, emarginate posteriorly. Legs moderately short; femora strongly clavate; posterior tarsi slender, first segment a little longer than following two together.

Genotype: *Semanotus cupressi* Van Dyke.

This genus is proposed for two species related to *Semanotus* but differing in the strongly clavate femora, slender, cylindrical antennae with the second segment elongate, and the evenly rounded pronotum with the surface weakly or sparsely punctate and the discal callosities feebly developed. In addition to the genotype species from California, *Callidiellum* will contain *Callidium rufipenne* Motschulsky, from Japan.

Genus ARHOPALUS Serville.

Arhopalus Serville, 1834, Ann. Soc. Ent. France, 3: 77.

Criocephalum Dejean, 1835, Catal. Coleopt., 2nd ed., p. 328.

Criocephalus Mulsant, 1839, Coleopt. France, Longic., p. 63.

Among the species included by Serville in his genus *Arhopalus*, the first was *Cerambyx rusticus* Linn. and this was designated as the type by Westwood (1840), Dejean's genus *Criocephalum* included only one described species, the same *Cerambyx rusticus* Linn., which becomes *ipso facto* the genotype. In 1864, *C. rusticus* was designated as the type of *Criocephalus* Mulsant, by J. Thomson. Thus the three genera are

isogenotypic and synonymous. *Arhopalus* apparently has priority and should be applied to those species which in recent lists appear under the name of *Criocephalus*.

Strangalia pacifica new species (Figure 1).

Form elongate, slender, attenuated; color testaceous, eyes and pronotal and elytral markings black, apical one-third of elytra ferrugineous; pubescence short, testaceous. Head with upper frons and vertex obscurely, shallowly punctured; antennae testaceous, surpassing middle of elytra, pubescence testaceous, darker on basal segments. Pronotum with a narrow

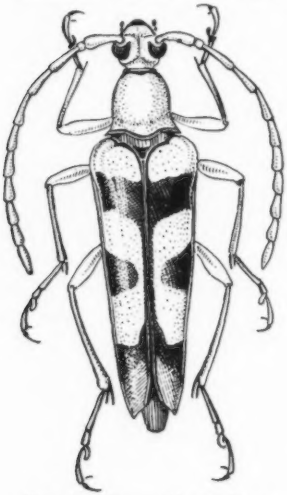

Fig. 1. *Strangalia pacifica* n. sp.

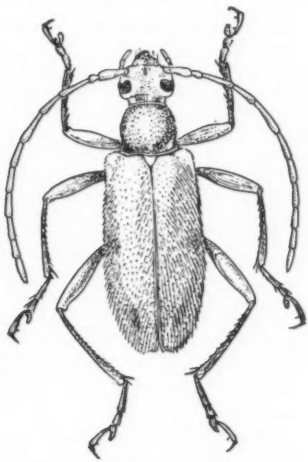

Fig. 2. *Anoplodera jacintana* n. sp.

black margin at base and apex; punctation obscure, shallow, disk scarcely punctate; pubescence short, testaceous; scutellum black; metasternum and metepisterna with a black band along anterior margin, surfaces closely, shallowly punctate. Elytra with apical one-third ferrugineous, base margined with a narrow black line, subbasal black band broad, transverse, equally wide from lateral margin to suture, connected along suture with the inverted V- shaped subapical black band, median band broad at sides, narrowed toward, and not attaining, suture; punctures

sparse, shallow, moderately fine, pubescence short, testaceous; apices obliquely emarginate. Legs slender, testaceous, shallowly punctate, clothed with testaceous pubescence. Abdomen testaceous; sternites finely, sparsely puncate, clothed with pale testaceous pubescence. Length 12 mm., breadth 3.5 mm.

Holotype female (No. 5011, Calif. Acad. Sci., Ent.) collected at Pinon Flats, San Jacinto Mountains, CALIFORNIA, on June 27, 1939, by Mr. William J. Perry. The specimen was beaten from *Quercus*.

This fine species is the first representative of the genus to be found on the Pacific Coast. It is related to *S. sexnotata* (Haldeman) but differs at once in the very shallow, obscure punctation of the head, pronotum and elytra and the short pubescence. The elytral markings are also quite different. The subbasal bands are transverse, not oblique, and meet broadly at the suture, the subapical band is in the form of an inverted "V" and is connected along the suture with the subbasal band, and the apical third of the elytra is ferrugineous (elytra tricolored).

Anoplodera jacintana new species (Figure 2).

Form short, robust; color reddish-brown, eyes dark brown; pubescence short. Head shining; upper frons and vertex coarsely, closely punctured; antennae brownish to brownish testaceous, apices attaining middle of elytra. Prontoum about as long as broad; sides broadly and rather evenly rounded at middle, not angulate, but little wider at middle than base; transverse basal impression feeble, interrupted at middle; posterior angles short, subacute; disk coarsely, closely punctate, clothed with short, brown pubescence. Elytra about one and one-half times as wide as pronotum at base, reddish brown, with vague darkened spots at middle of base and apex and at sides just behind the middle; surface coarsely, closely punctured, clothed with short, brown pubescence; apices subtruncate. Legs reddish brown to brownish-testaceous, finely, closely punctured, clothed with short, pale pubescence; first segment of posterior tarsi without a pubescent sole. Abdomen reddish brown; sternites moderately finely, closely punctured, clothed with long, fine, pale pubescence. Length 6-9 mm.

Holotype female (No. 5012, Calif. Acad. Sci., Ent.) from

Pinon Flats, San Jacinto Mountains, CALIFORNIA, May 24, 1939, on flowers of *Encelia farinosa* collected by Mr. E. S. Ross, and one *paratype*, also a female, from the same locality, May 28, 1939, taken by Dr. R. M. Bohart.

This species appears to belong in the group of 6-*spilota* LeConte but may be distinguished from the other members of that series by the feeble basal impressions of the pronotum and the absence of definite elytral maculations. From 6-*spilota* and *scapularis*, both of which occur in the same general territory, it further differs in the coarser, closer, elytral punctation, feeble basal angles of the pronotum, and the short, dark pubescence of the pronotum and elytra.

ANOPLODERA SCAPULARIS (Van Dyke).

Leptura scapularis Van Dyke, 1920, Bull. Brooklyn Ent. Soc., 15: 43.

Leptura isabellae R. Hopping, 1922, Can. Ent., 54: 162. (*new synonymy*).

In a series of several hundred examples of this species taken by Mr. E. R. Ross and the writer at Pinon Flats, San Jacinto Mountains, CALIFORNIA in May and June, 1939, every intergradation was found between the two extremes described by Dr. Van Dyke and Mr. Hopping. The form described by Mr. Hopping is the more typical but Dr. Van Dyke's name is older. In their key to *Anoplodera* (Nat. Mus. Canada, Bull. 52: 39-40, 1928) Swaine and Hopping incorrectly place *scapularis* with *swainei* in the group with the metasternum simple in both sexes. Actually, the metasternum of the male is carinate and produced apically as a dentiform process, as in 6-*spilota* LeConte.

Eburia falli new name.

Eburia semipubescens Fall (nec Thomson), 1909, Can. Ent., 41: 163.

This species appears to be very rare and has not been recorded in the literature since the original description of the unique type. Recently, however, while identifying some material collected in ARIZONA by Mr. J. O. Martin, an example

sparse, shallow, moderately fine, pubescence short, testaceous; apices obliquely emarginate. Legs slender, testaceous, shallowly punctate, clothed with testaceous pubescence. Abdomen testaceous; sternites finely, sparsely puncate, clothed with pale testaceous pubescence. Length 12 mm., breadth 3.5 mm.

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Anoplodera jacintana new species (Figure 2).

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Holotype female (No. 5012, Calif. Acad. Sci., Ent.) from

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This species appears to belong in the group of *6-spilota* LeConte but may be distinguished from the other members of that series by the feeble basal impressions of the pronotum and the absence of definite elytral maculations. From *6-spilota* and *scapularis*, both of which occur in the same general territory, it further differs in the coarser, closer, elytral punctation, feeble basal angles of the pronotum, and the short, dark pubescence of the pronotum and elytra.

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Eburia falli new name.

Eburia semipubescens Fall (nec Thomson), 1909, Can. Ent., 41: 163.

This species appears to be very rare and has not been recorded in the literature since the original description of the unique type. Recently, however, while identifying some material collected in ARIZONA by Mr. J. O. Martin, an example

was discovered from Gila Bend, August 20, 1924. The name applied to this species by the late Dr. Fall is unfortunately pre-occupied and it is re-named in dedication to his memory.

MEGANOPLIUM new genus.

Form elongate, subparallel, depressed; thinly clothed with long, erect, flying hairs. Head deeply impressed between antennal bases; maxillary palpi longer than labial palpi, last segment of each triangular; eyes deeply emarginate, coarsely facetted, scarcely embracing antennal insertion; antennae longer than the body in the male, shorter than the body in the female, segments without apical spines, basal segments ciliate along inner margin, outer segments ciliate at apex. Pronotum rounded at sides, disk with three smooth callosities, the median elongate, the two anterolateral, oval; prosternum with intercoxal process narrow, anterior coxal cavities broadly angulate and open externally; intermediate coxal cavities open to epimera; metasternum with distinct odoriferous pores. Elytra subparallel; apices rounded or subtruncate, unarmed. Legs moderately long; femora clavate, robust, unarmed at apex.

Genotype: *Elaphidion imbelle* LeConte.

This genus is proposed for a species which has been provisionally included in *Anoplium* Haldeman because of the unarmed antennae, femora, and elytra. It differs at once, however, by the widely angulate, open, anterior coxal cavities, clavate femora, and the type of vestiture which is sparse and consists of long, flying hairs. These same characters will also separate it from *Anelaphus* Linsley.

(To be continued.)

Research on Insect-borne Diseases.

The annual report for 1939, of the International Health Division (Wilbur A. Sawyer, M. D., Director) of the Rockefeller Foundation, published at New York, 1940, devotes 66 pages to recitals of work done on human diseases carried by insects, 22 to yellow fever, 44 to malaria.

Current Entomological Literature

COMPILED BY V. S. L. PATE, L. S. MACKEY and E. G. FISHER.

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the current or preceding year unless otherwise noted. All continued papers, with few exceptions, are recorded only at their first installment.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

Note. References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the list of Periodicals and Serials published in our January and June issues. This list may be secured from the publisher of Entomological News for 10c. The number of, or annual volume, and in some cases the part, heft, &c., the latter within ( )follows; then the pagination follows the colon :

Papers published in the Entomological News are not listed.

GENERAL.—Barnes, H. F.—Fluctuations in insect numbers. [6 Congr. Internat. Ent. Madrid] 1: 181-186, ill. **Berland, L**—Exploration entomologique de l'atmosphere en avion. [6 Congr. Internat. Ent. Madrid] 1: 29-31. **Blatchley, W. S.**—Obituary by J. R. Watson. [39] 23: 24-25. **Bodenheimer, F. S.**—The ecology of Aphids in a subtropical climate. [6 Congr. Internat. Ent. Madrid] 1: 49-58, ill. **Borgmeier, T.**—Arthur Neiva; a proposito do seu 60°. anniversario natalicio. [105] 11: 1-104, ill. **Flanders, S. E.**—Environmental resistance to the establishment of parasitic Hymenoptera. [7] 33: 245-253. **Jordan, K.**—Where subspecies meet. [6 Congr. Internat. Ent. Madrid] 1: 145-151. **Kennedy, C. H.**—Definitions of the Animal Family and the Animal Society. [6 Congr. Internat. Ent. Madrid] 1:33-44. **Mas, P. F.**—In memoriam R. P. Longinos Navas, S. J. [Rev. Soc. Iberic Cien. Nat.] 36: 6pp. **Morton, K. J.**—Obituary. [8] 76: 141-142. [9] 73: 143-144. **Mumford, E. P.**—Taxonomic notes on insects of the Marquesas Islands. [6 Congr. Internat. Ent. Madrid] 1: 263-274. **Patino-Camargo, L.**—See under Diptera. **Van Duzee, E. P.**—Obituary by R. L. Usinger. [55] 16: 123. **Wene & Wickliff.**—Modification of a stream bottom and its effect on the insect fauna. [4] 131-135. **Williams, C. B.**—An analysis of four years captures of insects in a light trap. Part II. The effect of weather condition on insect activity; and the

estimation & forecasting of changes in the insect population. [36] 90: 227-306, ill. **de Worms, C. G. M.**—Introduction to a discussion on "Sugaring". [Pro. & Trans. So. Lond. Ent. & Nat. Hist. Soc.] 1939-40: 62-64.

ANATOMY, PHYSIOLOGY, ETC.—Bridarolli, A.—Morfologia externa de la Clitelloxenia hemicyclia en sus tres primeros estados (Dipt., Term.). [6 Congr. Internat. Ent. Madrid] 1: 163-171, ill. **Bushnell & Boughton.**—Longevity and egg production in the common bean weevil, Acanthoscelides obtectus. [7] 33: 361-370, ill. **Chopard, L.**—La nervation de l'elytre chez les Gryllides males et la formation du miroir. [6 Congr. Internat. Ent. Madrid] 1: 81-85, ill. **Dallas, E. D.**—Monstruosidad doble, bilateral y simetrica en un carabido y consideraciones etiologicas. [6 Congr. Internat. Ent. Madrid] 1: 129-136, ill. (S). **Ebner, R.**—See under Orthoptera. **Eckert, J. E.**—Studies on the poison system of the honeybee. [7] 33: 258-268, ill. **Henson, H.**—The structure and post-embryonic development of Vanessa urticae. The malpighian tubules of the pupa and imago. [93] 109, (B): 357-372, ill. **Kemner, N. A.**—Die Flugel der Termitoxenien. [6 Congr. Internat. Ent. Madrid] 1: 275-294, ill. **Kennedy, J. S.**—The visual responses of flying mosquitoes. [93] 109; (A): 221-242, ill. **Kozhantschikov, I. W.**—Die physiologische Charakteristik des Temperaturoptimums der Insektenenentwicklung. [6 Congr. Internat. Ent. Madrid] 1: 59-72. **Ludwig & Abercrombie.**—The growth of the head capsule of the Japanese beetle larva. [7] 33: 385-390, ill. **Metalnikov, S.**—Facteurs de l'immunite contre la tuberculose chez les mites des abeilles. [6 Congr. Internat. Ent. Madrid] 1: 113-128. **Miller, A.**—Embryonic membranes, yolk cells, and morphogenesis of the stonefly, Pteronarcys proteus (Plecop.). [7] 33: 437-477, ill. **Nannetti, A.**—Osservazioni sugli ovari di operaie normali ed ovificatrici di Apis m. ligustica. [27] 18: 259-267. **Parr, T.**—See under Hemiptera. **Pospelov, W.**—Fertility of certain obnoxious Lepidoptera in connection with meterological conditions. [6 Congr. Internat. Ent. Madrid] 1: 195-202, ill. **Potter, E.**—A gynandromorph specimen of Anacridium moestum (Acridid.). [107] 15: 41-46, ill. **Quadri, M. A. H.**—On the development of the genitalia and their ducts of orthopteroid insects. [36] 90: 121-175, ill. **Ross, H. H.**—The Rocky Mountain "Black Fly", Symphoromyia atripes (Rhagionid.). [7] 33: 254-257,

ill. **Sawaya, P.**—Sobre a histophysiologia dos orgãos excretores de alguns insectos. [105] 11: 231-252, ill. **Schwanwitsch, B. N.**—See under Lepidoptera. **Snipes, T. B.**—Experiencias preliminares com arseniato de chumbo e arseniato de calcio no combate ao curuquere, Alabama argillacea (Noctuid.). [105] 11: 501-532. **Tonnoir, A. L.**—See under Diptera. **Zernoff, V.**—L'immunite et la serotherapie chez les insectes. [6 Congr. Internat. Ent. Madrid] 1: 153-161.

ARACHNIDA AND MYRIOPODA.—Adams, C. F.—A preliminary list of the Chironomidae of Missouri. [Pro. Missouri Acad. Sci.] 5: 124-127. **Denier, P. C. L.**—Lista de los artrópodos dañinos o útiles a los algodonales argentinos. [69] 17: 553-567. **da Fonseca, F.**—Notas de Acariologia. Dasyponyssus neivai, gen. n., sp. n., acariano parasita de Euphractus sexcinctus (Dasyponyssid. fam. n.). [105] 11: 104-119, ill. (s). **Gertsch, W. J.**—Five new wolf-spiders from Florida. [39] 23: 17-23, ill. **Keifer, H. H.**—Eriophyid Studies IX. [Bull. Dept. Agric. Calif.] 29: 112-117, ill. (*). **Kelley, T. F.**—Ornithodoros turicata in California. [55] 16: 106-107. **Malkin, B.**—Two new spiders on Staten Island. [19] 35: 89. **de Mello-Leitao, C.**—Notes sur la famille Ctenidae et sa distribution geographique. [6 Congr. Internat. Ent. Madrid] 1: 103-109, (K*). Notes sur la systematique des Palpigrades. [6 Congr. Internat. Ent. Madrid]. 1: 143-144. **Peterson, A. G.**—A brief survey of the Araneida [Pro. Missouri Acad. Sci.] 5: 120-122. **Peyronel, B.**—Alcune osservazioni sui rapporti fra Diplopodi e Funghi microscopici [Atti Reale Accad. Sci. Torino] 75: 12-16. **Thompson, G. B.**—The distribution of Heterodoxus spiniger. [Pap. & Proc. Roy. Soc. Tasmania] 1939: 27-31.

THE SMALLER ORDERS OF INSECTS.—Bailey, S. F.—A review of the genus Ankothrips. [55] 16: 97-106, ill. (k*). **Berner, L.**—Baetisca rogersi, a new mayfly from northern Florida. [4] 72: 156-160, ill. **Emerson, K. C.**—A new Trimenopon from Panama (Mallophaga). [7] 33: 339-342, ill. **Fraser, F. C.**—A note on the classification of Zacallites balli (Upper Eocene) (Odonata). [107] B. 9: 62-64, ill. **Gloyd, L. K.**—On the status of Gomyhaeschna antilope. [Occas. Pap. Mus. Zool. Univ. Michigan] No. 415: 14 pp., ill. **Guimaraes, L. R.**—Sobre uma nova especie de Paragoniocotes (Philopterid.). [105] 11: 369-373, ill. **Handschin, E.**—Diplura. Doppelschwanze. [Biol. der Tiere

Deutschlands] Lief. 41: 57-66, ill. **Hood, J. D.**—A century of new American Thysanoptera. [105] 11: 540-583, ill **Kennedy, C. H.**—The Miocora-like dragonflies from Ecuador with notes on Cora, Miocora, Kalocora, Josocora and Stenocora (Odon.: Polythorinae). [7] 33: 406-436, ill. (S*). **Leonard, J. W.**—Lanthus albistylus, a new record for Michigan, with ecological notes on the species (Gomphinae). [Occ. Pap. Mus. Zool. Univ. Michigan] No. 414: 6 pp., ill. **Milliron, H. E.**—The emergence of a Neotropical Mantispid from a spider egg sac. [7] 33: 357-360. **Del Ponte & Riesel.**—Notas sobre "Siphonaptera" argentinos. [69] 17: 543-551. **LaRivers, I.**—A preliminary synopsis of the dragonflies of Nevada. [55] 16: 111-123. **Spieth, H. T.**—The genus Ephoron. [4] 72: 109-111. The North American Ephemeropteran species of Francis Walker. [7] 33: 324-338, ill. **Geijskes, D. C.**, also **Valle, K. J.**—See Orthoptera.

ORTHOPTERA.—Chopard, L.—See under Anatomy. **Ebner, R.**—Veranderungen an Orthopteren durch parasitische Wurmer. [6 Congr. Internat. Ent. Madrid] 1: 341-347, ill. **Geijskes, D. C.**—Notes on Odonata of Surinam. Rimanella arcana and its nymph. [105] 11: 173-179, ill. **Gurney, A. B.**—A revision of the grasshoppers of the gen. Orphulella from America north of Mexico (Acrid.). [70] 20: 85-156, ill. (k). **Kato, M.**—Feeding activity of a grasshopper, Prumna sp., widely distributed at Mts. Hakkoda. [Sci. Rep. Tohoku Imp. Univ.] 15: 191-201, ill. **King, R. L.**—New Iowa records of Acrididae. [Proc. Iowa Acad. Sci.] 46: 417-418. **Liebermann, J.**—El alotipo macho de Marellia remipes y una probable sinonimia. (Acrid.). [Ciencia] 1: 205-206. Las "Tropidacrini" de la Región neotropical (Cyrtacanth.). [69] 17: 589-600, ill. **deMello-Leitao, C.**—Quatro novos Tetigonioides do Brasil. [105] 11: 150-158, ill. **Pettit, L. C.**—A roach is born. [N. Eng. Nat.] 1940, No. 7: 15-18, ill. **Quadri, M. A. H.**—See under Anatomy. **Rehn, J. A. G.**—A new genus of Blattidae from Brazil. [Notulae Naturae] No. 58: 6 pp., ill. A new Ecuadorian species of Orpacophora (Tettigoniid.). [Notulae Naturae] No. 58: 5 pp., ill. **Rosas Costa, J. A.**—El genero Marellia (Pauliniid.) en la Argentina. [Notas del Museo de la Plata] 5: 139-147. ill. (s). **Saez, F. A.**—Estado de las investigaciones sobre citologia de las variedades de "Schistocerca paranensis". [69] 17: 253-259, ill. **Sawaya, P.**—See under Anatomy. **Uvarov, B. P.**—Twenty-four new generic names in Orthoptera. [75] 6: 112-117. **Valle, K. J.**

—Epiophlebia superstes ja sudenkorentojen polveutuminen. [Luonnon Ystävä] 43: 129-139, ill. **Zeuner, F. E.**—Fossil Orthoptera Ensifera. 2 Volumes. British Museum (Nat. Hist.).

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J. A.—Argynnid notes. [38] 39: 75-77. **Filho, L. T.**—Lepidoneiva, novo genero da fam. Euchromiidae. [105] 11: 477-487, ill. (s). **Ford, L. T.**—Notes on breeding and setting microlepidoptera. [Pro. & Trans. So. Lond. Ent. & Nat. Hist. Soc.] 1939-40: 90-92. **Freeman, T. N.**—Notes on the occurrence of Platysamia columbia in the Ottawa region (Saturniid.). [4] 72: 129-130. **Jayewickreme, S. H.**—A comparative study of the larval morphology of leaf-mining Lepidoptera in Britain. [36] 90: 63-105, ill. **Johnson, J. W.**—Calosaturnia meridionalis sp. n. (Saturniid.). [19] 35: 100-102, ill. **Lindsey, A. W.**—Two new forms of Hesperia. [7] 33: 373-376. **May, E.**—Notes on the lepidopterous fauna of the northern region of the State of Espirito Santo, Brasil. [69] 17: 133-136. **McDunnough, J.**—A n. race of Lycaena dorcas from northeastern New Brunswick. [4] 72: 130-131. **Moore, S.**—A list of the butterflies of Michigan. [Occas. Pap. Mus. Zool., Univ, Mich,] No, 411: 23 pp. **Oiticica Filho, J.**—N. esp. do. gen, Calliomma (Sphing.). [105] 11: 496-500, ill. **Dos Passos, C. F.**—A n. spp. of Incisalia from southern California (Lycaenid.). [4] 72: 167-168. **Schaus, W.**—Insects of Porto Rico and the Virgin Islands—Moths of the fam. Geometridae and Pyralididae. [N. Y. Acad. of Sci.] 12: 291-417. **Schwanwitsch, B. N.**—On some general principles observed in the evolution of the wing-pattern of Palaearctic Satyridae. [6 Congr. Internat. Ent. Madrid] 1: 1-8, ill. **Sperry, G. H,**—A new Noctuid from the desert region of southern California. [4] 72: 147-148. **Sperry, J. L.**—Two apparently undescribed spp. of Geometridae from the southwest. [4] 72: 145. **Statler, M. A.**—Methods for rearing Lepidoptera [Ward's Comb. Ent. & Nat. Sci. Bull.] 13: 1-3, ill. **di Stefano, G.**—Contributo alla conoscenza dell' Orgya antiqua (Lymantriid.). [Redia] 25: 303-318, ill. **Wille, J. E.**—Observaciones sobre Heliothis virescens como plaga del algodonero en el Peru. [105] 11: 584-588.

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SPECIAL NOTICES.—Nomenclator Zoologicus.—By S. A. Neave. Volume III. London. 1065 pp.

THE BUTTERFLIES OF THE NIAGARA FRONTIER REGION and Beginners' Guide for Collecting, Rearing and Preserving Them, By WILLIAM WILD. Buffalo Museum of Science Press, Buffalo, New York. $1. 56 pages; 12 figures, 8 plates carrying 88 illustrations; 1939.—Such publications as this are to be heartily approved as a stimulus to the study of Entomology, especially in the younger generation, when, as is the case here, the illustrations are well made, enabling the amateur to correctly identify the species involved. If enough of these brochures are published at the Museums in our country, we will learn the distribution of the Butterflies in the United States and it will encourage the study of the life history and habits of the most colorful and obvious of the insects. Holland's Butterfly book was for years the standard, but the price of the new edition has made it more inaccessible to the youngsters. His nomenclature is also rather oldfashioned, for he refused to abide by the rules of the Congress. This is however, constantly changing, mostly due to the deep research being made by our friend Hemming in London.—ROSWELL C. WILLIAMS, JR.

AN INTRODUCTION TO ENTOMOLOGY by JOHN HENRY COMSTOCK. Ninth edition, revised, Ithaca, New York. Comstock Publishing Co. 1940. Preface by GLENN W. HERRICK. Pp. xxi, 1064. Portrait of Prof. Comstock, 1228 figs. $5.00—The pages of this new edition of this well-known work seem so familiar that on making a comparison with the original edition of 1924, one finds that approximately 1012 pages and all of the 1228 figures of the edition of 1940 have been reproduced without change from that of 1924. That leaves about 52 pages,

plus 2 unnumbered ones between pages 205 and 206 and 463 and 464, in which alterations are to be found. Some of these first appeared in the edition of 1936, as indicated in the preface thereto by Dr. Herrick, here reprinted. Most of the other changes are in the chapter on the Hymenoptera, where Dr. H. K. Townes has furnished new keys to the families of this order (pp. 891-894) and has rewritten the sections on the Ichneumonoidea (pp. 917-931), Proctotrupoidea (pp. 931-934) and Chalcidoidea (pp. 939, 941-943, 944-949). Dr. J. C. Bradley's table of families of the Clistogastra (pp. 908-917) also is retained from the first edition. The bibliography (pp. 1008-1027) is unchanged from the edition of 1924, except for additions on the lower half of page 1027 which, we believe, were made in the edition of 1936. Except in the new sections by Dr. Townes, there are no references in the text or footnotes to literature later than 1924, except, perhaps, the date (1931) of the second edition of Holland's Butterfly Book (p. 739). Indeed such important works by Cornell men as Needham and Claassen's Stoneflies of America north of Mexico (1925) and Betten's Caddisflies of New York State (1934) are referred to, as they were in the edition of 1924, as still to be published (pp. 327, 559). No mention is made of any work on venation later than Comstock's Wings of Insects of 1918; of Needham, Travers and Hsu's volume on Ephemerida (1935); of Needham and Heywood's Handbook of Dragonflies (1929); of Garman on the Odonata of Connecticut (1927); of Wheeler's Demons of the Dust (1930); of recent, especially the Californian, work on the Termites (1934, etc.); of Blatchley's Heteroptera of Eastern North America (1926), although his three earlier manuals are included in the bibliography (p. 1009); of the great work of Korschelt and his students on *Dytiscus* (1924); of Forbes' volume on the Lepidoptera of New York State (1923); of Curran's Families and Genera of North American Diptera (1934), although Williston's Manual (1908) is cited (p. 1027); of anything on mosquitoes later than Dyar (1922). These and other uncited omissions are regrettable, since they deprive the user of this admirable text of the knowledge of the advances of the last sixteen years, which he might naturally expect to be included, and give him no hint of the existence of a large and more recent literature. The text itself is still valuable and useful to students of insects.—P. P. CALVERT.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

Wanted.—Chrysididae and Cleptidae of the world for cash or for exchange and determination, especially Nearctic and Neotropical material, for revisional purposes. W. G. Bodenstein, Dept. of Entomology, Cornell University, Ithaca, N. Y.

Wanted.—Nitidulidae for determination or exchange. Correspondence desired with those who will collect. H. R. Dodge, 78 Anne Street, Clintonville, Wisconsin.

Wanted.—To hear from specialists who would care to determine some family of insects for a share of the duplicates. We have many specimens, especially in some families of Diptera and Hymenoptera. H. E. Jaques, Iowa Insect Survey, Mt. Pleasant, Iowa.

Insects from Northern Korea.—I will collect insects for specialists in certain groups upon their request; very rich fauna; rates reasonable. Address: Mr. Alexander M. Yankovsky, Shuotsu-Ompo, Korea, Japan.

Wanted—Living specimens of the luminous beetle **Phengodes** this summer. E. Newton Harvey, The Biology Dept., Princeton University, Princeton, New Jersey.

Malacodermata (except Lycidae and Cleridae) of the world. Will determine and purchase. Also exchange against Col. or all other insects from Bolivia. Walter Wittmer, Casilla 219, Oruro, Bolivia, S. America.

I want to collect Rothschildia, agapema, gulfina and io moths and Texas butterflies for interested persons. Eula Frizzell, R 4 San Benito, Texas.

Wanted—To hear from collectors who desire extra good cocoons of Michigan **Platysamia columbia,** that will emerge June, 1941. W. S. McAlpine, 575 Townsend St., Birmngham, Michigan.

Wanted—Specimens of the genus Trox from North America. Will exchange or determine for duplicate material. Mark Robinson, 231 Cherry St., Sharon Hill, Pennsylvania.

Lepidoptera—From the South, including P. palamedes, T. halesus and E. jucunda to exchange for fauna from other localities. H. W. Eustis, 2230 McDowell St., Augusta, Georgia.

Wanted—Egg cases of preying mantids. Correspondence desired with those who will collect. Osmond P. Breland, Department of Zoology, The University of Texas, Austin, Texas.

✚ AMERICAN RED CROSS ✚

Preparedness for national defense has two aspects: preparedness of the country both as to materials and manpower; preparedness of the individual to assume the tasks that may devolve upon him. More than any others, college men and women should prepare themselves for the tasks that lie ahead. They are the future leaders of our people. To them will fall, and perhaps sooner than they think, a great number of opportunities of proving themselves.

For many years the Red Cross has been qualifying college students as instructors in swimming and the skills of life saving and in first aid. A recent announcement by the Bureau of Medicine and Surgery, U. S. Navy, calls attention to the fact that individuals holding Red Cross certificates of various grades may qualify in the Naval Reserve as hospital apprentices, pharmacist's mates, to as high as chief pharmacist's mate.

Every effort is being bent to increase the Red Cross Nurses' reserve so that, in case of need, naval and military hospitals will not be understaffed. At the same time there must be a great increase in the number of young women trained in home care of the sick and methods of preventing illness and its spread. Still another field exists. For the past year a growing army of volunteers, now numbering more than half a million, has been at work producing garments and surgical dressings for use in European war zones. In case of national emergency affecting this country, this volunteer effort must be greatly expanded.

There are 3,721 Red Cross chapters. Each of these sponsors volunteer services and each offers free instructions in first aid, swimming and life saving, and home care of the sick. From November 11 to November 30 these chapters will conduct their annual Roll Call of members for the coming year. Chapters located in college and university towns will make every effort to interest students, not only in affiliating with the organization, but in those Red Cross activities that will help strengthen our country to meet any possible emergency.

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